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States of Suspension: Trans-corporeality at Sea

To suspend: "To debar temporarily, especially from a privilege." "To hold in an undetermined or undecided state awaiting further information." "To keep from falling or sinking by some invisible support as buoyancy." "To keep fixed or lost (as in wonder or contemplation)."

Merriam-Webster Dictionary

Trans-corporeality at Sea?

In *Bodily Natures: Science, Environment, and the Material Self*, I argue for a conception of trans-corporeality that traces the material interchanges across human bodies, animal bodies, and the wider material world. As the material self cannot be disentangled from networks that are simultaneously economic, political, cultural, scientific, and substantial, what was once the ostensibly bounded human subject finds herself in a swirling landscape of uncertainty where practices and actions that were once not even remotely ethical or political matters suddenly become so. Trans-corporeality is a new materialist and posthumanist sense of the human as substantially and perpetually interconnected with the flows of substances and the agencies of environments. Activists, as well as everyday practitioners of environmental, environmental health, environmental justice, and climate change movements, work to reveal and reshape the flows of material agencies across regions, environments, animal bodies, and human

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bodies—even as global capitalism and the medical-industrial complex reassert a more convenient ideology of solidly bounded, individual consumers and benign, discrete products. Even though the recognition of trans-corporeality begins with human bodies in their environments, tracing substantial interchanges renders the human permeable, dissolving stable outlines. Tracing these connections discourages us from taking refuge in the fantasies of transcendence and imperviousness that make environmentalism a merely elective and external enterprise.

This essay will examine to what extent the new materialisms¹ and trans-corporeality specifically can extend through the seas. The persistent (and convenient) conception of the ocean as so vast and powerful that anything dumped into it will be dispersed into oblivion² makes it particularly difficult to capture, map, and publicize the flow of toxins across terrestrial, oceanic, and human habitats. Moreover, many marine habitats, such as those in the benthic and pelagic zones,³ are not only relatively unknown to scientists, but are often depicted as “alien” worlds, completely separate from human activities. Some evolutionary origin stories, however, insist that life began in the sea and human bodies descend from marine ancestors. And some ocean conservationists, including Rachel Carson, Sylvia Earle, and Julia Whitty, evoke a sense of transcorporeal connection between terrestrial humans and the seas, by reminding us that the sea is in our very blood (Carson), by emphasizing that every breath we take contains oxygen produced by plankton (Earle), or by suggesting we see the ocean through the ocean—since our eyes are surrounded by saltwater (Whitty).

The pervasive trope of the oceans as alien may alienate humans from the seas, but it may also suggest that sea life hovers at the very limits of what terrestrial humans can comprehend. The recognition of these limits, as a suspension of humanist presumptions, may be an epistemological-ethical moment that debars us from humanist privilege and keeps us “fixed or lost as in wonder or contemplation.” Suspension may denote a pause in action, but this pause could be considered akin to the precautionary principle, in which we recognize that the world's intra-active material agencies often make it prudent to await “further information.” This receptiveness at no point exempts us from ethical and political actions, since transcorporeal subjects are always themselves part of global networks of responsibility. Indeed, to suspend, say, the mining of the deep seas at least until there is some understanding of the ecological risks involved would entail not a cessation of action but rather a massive political mobilization. This essay will focus, however, on suspension as a sort

of buoyancy, a sense that the human is held, but not held up, by invisible genealogies and a maelstrom of often imperceptible substances that disclose connections between humans and the sea. The essay considers two different modes of linking terrestrial humans with marine creatures: origin stories that culminate in aquatic evolutionary histories and contemporary transcorporeal tracings that dramatize the far-flung effects of human practices and the strange agencies of banal objects.

"My Mother Is a Fish": Aquatic Origins of the (Post)Human

William Faulkner's *As I Lay Dying*, a novel in which an impoverished rural family carts their dead mother's body back to her hometown for burial during the dreaded heat of a Southern summer, includes a chapter from the child Vardaman's perspective consisting of only five words: "My mother is a fish" (84). Vardaman caught a big fish the same day his mother died and he saw his sister cutting up and frying the fish for dinner. This grotesque transference or conflation of the deaths of the mother and the fish is part of the black comedy of the novel, which exposes human irrationality, psychological defense mechanisms, and the characters' pathetic, tragic, comic, and confused attempts to make sense of their painful and chaotic world. In short, the characters certainly do not exemplify the Humanist ideal of Reason that would elevate *Homo sapiens* above other animals. Yet it would be a mistake to read the novel as in any way posthumanist, for Vardaman's transference of his mother's death onto the fish is merely a psychological response, an error, a literary joke. Although Faulkner, or the text itself, may be alluding to a Darwinian account of the aquatic origins of the human, Vardaman is not schooled in evolutionary theory. Moreover, the psychological interiority stressed by the stream of consciousness form isolates the characters, not only from each other, dramatizing a familiar modernist sense of alienation, but also from the wider material world.

If we take Vardaman's statement, "My mother is a fish," as a literal description of human ancestry, however, we are left with the question of whether origin stories can provoke a material ethics, an environmentalist ethos, or a substantial sense of connection to "alien" aquatic creatures.⁴ Most new materialists, would, I think, be skeptical of origin stories. As heretical descendants of postmodernism and poststructuralism, they maintain a critical stance toward foundations and essentialisms. Origin stories tend to demarcate one dense, highly charged source for all that follows. Origins often presume or shore up ontological boundaries, delimiting material agencies and

possibilities of becoming. New materialisms, on the other hand, stress inter-action, intra-action, co-constitution, and the pervasive material agencies that cut across and reconfigure ostensibly separate objects and beings. Donna Haraway, for example, in her companion species manifesto, claims that humans and dogs do not exist as separate entities, but instead, co-constituted each other through their significant relations across evolutionary time. In *When Species Meet*, she explains that “all actors become who they are in the dance of relating” and “do not precede their relating” (25). Karen Barad, drawing on Niels Bohr’s theoretical physics, relishes the sense of the world as a “dynamic process of intra-activity,” in which nothing exists that precedes relations. Barad distinguishes her theory of intra-action from that of inter-action, which still “presumes the prior existence of independent entities or relata” (139). The human becomes posthuman in Barad’s theory, as we are entangled with the world’s dynamic intra-actions. Reason, science, and ethics cannot emerge from some “exterior position” (396). Emphasizing the dual meaning of “mattering,” Barad defines ethics as “intra-acting from within and as part of the world in its becoming” (396). Perhaps origin stories may be ethical when they emerge from and engender ways of knowing, being, and acting that do not externalize the world, but instead insist that the (post)human is always already that which was and continues to be “part of the world in its becoming.”

Charles Darwin, exposing the human as a corporeal amalgamation of creatures both at hand and across vast temporal distances, may have given us our first glimpse of the “posthuman.” Darwin, in a letter, cheerfully proclaimed that “Our ancestor was an animal which breathed water, had a swim bladder, a great swimming tail, an imperfect skull, and undoubtedly was a hermaphrodite! Here is a pleasant genealogy for mankind” (qtd. in Zimmer 23). While Darwin, in *The Descent of Man*, tries to soften the blow of evolution by telling many a charming and humorous tale demonstrating how the animals that humans would discount, abuse, or revile actually possess various “human” characteristics of curiosity, reason, language, affection, tool use, and even have religious experiences, he realizes that most people do not want to see themselves in nonhuman creatures. He points out how many people are disturbed by the idea that their own bodies bear traces of their evolutionary origins in other creatures:

It is notorious that man is constructed on the same general type or model as other mammals. All the bones in his skeleton can be compared with corresponding

bones in a monkey, bat, or seal. So it is with his muscles, nerves, blood-vessels and internal viscera. The brain, the most important of all the organs, follows the same law. (395–96)

The word “notorious” unveils the paradox that the fact that “man” is constructed like other mammals is somehow both accepted and unacceptable, both obvious and objectionable. Perhaps little has changed since Darwin's time, in that many remain repulsed by the idea of their own animality, as horror films such as *The Island of Dr. Moreau* and the continuing vilification of Darwin himself (at least in the United States) would suggest. And yet, physical relatedness may provoke a rich ethical sense of kinship between humans and other animals. Darwin's term “the community of descent” (411) resonates with ethical provocations. At the very least, anatomical similarity may deny us mental or spiritual exceptionalism, especially considering that even “the brain, the most important of all organs, follows the same law.” Moreover, tracing human origins farther back, before mammals had developed, ultimately leaves us with the “amphibian-like creature,” then the “fish-like animal,” and finally, the “aquatic animal . . . with the two sexes united in the same individual” (911).

If so many people resist or deny the idea of kinship between humans and other primates, is it possible for humans to embrace evolutionary origin stories that feature fishy mothers or fathers—or, more appropriately, an intersex aquatic ancestor? What sort of cultural work can aquatic ancestors perform?⁵ It is all too easy for terrestrial humans to ignore the current crisis of ocean conservation, as the open seas and the deep seas are so terribly distant, so unspeakably different from our habitats. Is it possible for a recognition of transcorporeality, the connections and interchanges between bodies and environments, to extend both spatially, across the wide expanses of aquatic habitats, and temporally, back to these aquatic origins? Or does the unfathomable temporal distance of aquatic ancestors render them dismissible, especially insofar as the genre of the origin “story,” encloses genealogies—however dispersed and material—as mere myth?

In Linda Hogan's poem “Crossings,” the speaker layers three different eras of “crossed beginnings”: when a form of ocean life ventured onto the land, when the ancestor of the whale traveled back to the water, and when a human child is born with the “trace of gill slits.” The temporal conjunction creates one imaginative space of “crossed beginnings,” where the nascent human and the fetal whale not only encounter each other on the way to what they will become

but also substantially coincide with each other. When the speaker sees a fetal whale, she remembers this evolutionary history:

Not yet whale, it still wore the shadow
of a human face, and fingers
that had grown before the taking
back and turning into fin.

In the next stanza, the speaker describes the “longing” provoked by remembering the “terrain of crossed beginnings”:

when whales lived on land
and we stepped out of water
to enter our lives in air.

This is a poetically rich moment of crossings and kinship, but it is nonetheless puzzling, since the “we” who “stepped out of water/to enter our lives in air” is already associated with the human. The poem calls to its readers, as part of that “we,” to imagine ourselves as the earliest terrestrial creature. In terms of evolutionary chronologies, this makes little sense, as the “we” that “stepped out of water,” a tetrapod, would have been the ancestor of the whale as well as the human, and these two journeys, the tetrapod's transition to land and the whale's transition back to water, would have been separated by about 330 million years.

No matter. By dramatizing an encounter between the not-yet-whale and the ancestor of both the human and whale, Hogan collapses time into a space of transformations, where clear and separate lines of descent are overwhelmed by encounters resonating with ever proliferating kinship. As Carl Zimmer puts it in *At the Water's Edge: Fish with Fingers, Whales with Legs, and How Life Came Ashore but then Went Back to Sea*: “From water to land, and from land back to water: in the history of life, organisms have crossed such seemingly impenetrable boundaries many times” (6). Knowledge of these transitions, he suggests, may incite “a certain kinship with the rest of creation if you happen to find yourself at the ocean floor surrounded by yellow-tails and dolphins” (8). Sylvia Earle, the diva of oceanography, connects the distant evolutionary past with the immediacy of living human bodies: “Our origins are there, reflected in the briny solution coursing through our veins and in the underlying chemistry that links us to all other life” (*Sea Change* 15).

Probably, the best known, or at least most lauded, oceanic origin story would be Rachel Carson's *The Sea Around Us*. Carson exalts the sea as the origin of life: “Beginnings are apt to be shadowy, and so it is with the beginnings of that great mother of life, the sea” (3).

She notes that the “sea’s first children lived on the organic substances then present in the ocean waters, or like the iron and sulphur bacteria that exist today, lived directly on inorganic food” (8). She narrates how, as millions of years pass, the “stream of life grew more and more complex,” from “simple one-celled creatures,” to sponges, jellyfish, worms, starfish, and plants (8). While I’ve long been a critic of the figuration of Mother Earth, Carson’s personification of the sea as a mother does invite an emotional identification with an otherwise dry account of remote eras and events. It also dramatizes the abundance of the ancient seas: “During all this time, the continents had no life. There was little to induce living things to come ashore, forsaking their all-providing, all-embracing mother sea” (8). While this figuration, problematically, poses the sea as the Angel in the House of Evolution, or as a twentieth-century “empty nester,” left behind as some of her children move along to higher ground, this narrative is supplanted by a more transcorporeal sense of connection between the sea and all living creatures. Carson writes:

When they went ashore the animals that took up a land life carried with them a part of the sea in their bodies, a heritage which they passed on to their children and which even today links each land animal with its origin in the ancient sea. Fish, amphibian, and reptile, warm-blooded bird and mammal—each of us carries in our veins a salty stream in which the elements sodium, potassium, and calcium are combined in almost the same proportions as in sea water. . . . In the same way, our lime-hardened skeletons are a heritage from the calcium-rich ocean of Cambrian time. Even the protoplasm that streams within each cell of our bodies has the chemical structure impressed upon all living matter when the first simple creatures were brought forth in the ancient sea. (13–14)

The sea surges through the bodies of all terrestrial animals, including humans—in our blood, skeletons, and cellular protoplasm. In this passage, Carson crystallizes the vast expanses of evolutionary time and space—nearly impossible to fathom—into a form that is already at hand: a form that is in fact ourselves. Significantly, the heritage, or inheritance, here is not exclusively human, but belongs to “fish, amphibian, reptile, warm-blooded, bird and mammal—each of us.” While the reader may assume the terms “us” or “our” refers only to the human, the passage itself suggests a broader community of descent.

Neill Shubin's *Your Inner Fish: A Journey into the 3.5 Billion Year History of the Human Body* is a less mythic account of how the human body carries within it not the sea, exactly, but traces of our fishy ancestry. Shubin's title, *Your Inner Fish*, which plays off the self-help genre that promises personal growth, is oddly apt, since this popularized account of anatomical evolution and scientific discovery actually devolves into a rather anthropocentric self-help manual. Shubin begins by promising: "Ancient fish bones can be a path to knowledge about who we are and how we got that way" (3). Oddly, Shubin calls us to imagine our bodies teeming with aquatic creatures from the past: "There isn't just a single fish inside our limbs; there is a whole aquarium" (41). He argues that the search for human origins should not stop at African hominids, but instead, extend, at least to the Tiktaalik—the fossilized remains of an intermediate between fish and land animals. He overstates his claim, however, erasing gradations between distant life forms and much closer relatives: "This fossil is just as much part of our history as the African hominids" (27). Nonetheless, there is something compelling about considering our own bodies as encapsulating not just evolutionary, but planetary history:

If you know how to look, our body becomes a time capsule that, when opened, tells of critical moments in the history of our planet and of a distant past in ancient oceans, streams, and forests. Changes in the ancient atmosphere are reflected in the molecules that allow our cells to cooperate to make bodies. The environment of ancient streams shaped the basic anatomy of our limbs. . . . This list goes on. This history is our inheritance, one that affects our lives today and will do so in the future. (184)

I relish Shubin's argument that things such as the change in atmosphere or the environment of ancient streams profoundly affect who we are. However, two crucial dimensions are missing here. When Shubin encapsulates the planetary past in human bodies, he suggests that it is only the planet's past—and not its current, or future, conditions—that will "affect our lives today" and "in the future." The material agencies of the present moment, the changes in the atmosphere, the changes in the climate, the acidification of the ocean, the flooding of the environment with thousands of xenobiotic chemicals—are rendered inert. Humans embody planetary history, and yet, as completed and complete entities stand outside of the here and the now. Secondly, there is a bizarre insistence on the human as the apex

of evolution, in that while we may imagine ourselves filled with an entire aquarium of fascinating creatures, those creatures do not unsettle or transform the human but instead, reinforce it from within—giving us a rather carnivorous, chronological heft. The entire planetary history is “our inheritance.” All other species—living, barely surviving, and long extinct—disappear, as the history of air and water become exclusively about “our lives.” While Darwin found “grandeur in this view of life” in which “endless forms most beautiful and most wonderful have been, and are being, evolved” (374), Shubin ultimately removes the human from Darwin’s tangled bank.

Shubin titles one section “Digging Fossils—Seeing Ourselves,” which entraps us in a rather solipsistic universe; wherever we look, wherever we dig, wherever we explore, we ultimately see the human. Nothing eludes this vast net of anthropocentric solipsism. Although Shubin asks, regarding the jellies, “How can we try to see ourselves in animals that have no nerve cord at all? How about no anus and no mouth?”⁶ (113), he answers with a rather sketchy analogy: “We may not look much like sea anemones and jellyfish, but the recipe that builds us is a more intricate version of the one that builds them” (115). Focusing on what they “lack,” he diminishes the distinctive features of gelatinous creatures. He is not suspended in wonder or contemplation of the jellyfish, but instead proceeds to argue that our common evolutionary origins only demonstrate that it is humans that are “special,” “unique,” and “extraordinary.”⁷ If, as some critics have argued, Shubin’s book acts as a refutation of Intelligent Design, it is rather depressing state of affairs in which Darwin’s complex, philosophical, and literary—not to mention scientific—arguments are reduced by this simplistic account, nearly 150 years later. Even more disappointing, however, is the utter lack of any ecological or environmental vision within Shubin’s work. As we witness the Sixth Great Extinction, which may entail the demise of half a million species by 2050, as well as the collapse of entire ecosystems, it is bizarre that *Your Inner Fish* does not address the current state of the planet. The book concludes by promising that recent scientific discoveries on “yeast, flies, worms, and yes, fish tell us about how our own bodies work, the causes of the many diseases we suffer, and ways we can develop tools to make our lives longer and healthier” (198). Ultimately, the entire planetary history is funneled into an upbeat story about longer and healthier human lives. The epilogue simply repeats this message, albeit a bit more poetically: “I can imagine few things more beautiful or intellectually profound than finding the basis for our humanity, and remedies for many of the ills we suffer, nestled inside some of the most humble creatures that have ever lived

on our planet" (201). Despite the coziness suggested by the word "nestled," this vision transforms a multitude of living and extinct creatures—all forms of more-than-human life—into a planetary apothecary, a living or fossilized drugstore for the perpetuation of the human. The potential for ethical relations within Darwin's term "community of descent" is short-circuited here, when all life becomes a mere tool for the betterment of *H. sapiens*. But there is another, more epistemological, lack in this book, which relies upon a much-critiqued notion of scientific objectivity in which the scientist is the knowing subject and the rest of the world is reduced to inert objects of knowledge. The body that the book conjures, metaphorically filled with an aquarium of fishes, is not a body that anyone actually inhabits; it can be known only through scientific origin stories, not mediated experience.⁸ The human reason of the science, which promises to "explain and make our universe knowable," does not itself emanate from the inner fish, or the body as aquarium, or indeed, from the body that is, in the current moment, part of the flux and interchanges of the material world. Whereas Darwin, one could argue, forges a scientific and philosophical "posthumanism," in which there are no solid demarcations between humans and animals, and in which the human is coextensive with the emergent natural/cultural world, Shubin ultimately offers a much more humanist vision of exceptionalism and containment.

Sushi, Plastic, Mercury: New Materialism and Ocean Ecologies

Shubin demonstrates how a recognition of the aquatic evolutionary origins of the human can coexist with conventional scientific epistemologies of distancing and disengagement, as well as with a medicalized sense of self-contained, genetically driven human bodies. Even as Rachel Carson's narrative evokes evolutionary kinship across vast temporal and oceanic expanses, thus working to dispel the sense that the seas are alien and separate from the human, such mythical stories, even when they conclude in present-day, palpable human bodies, may be dismissed as ancient history or immaterial myth. Oceanic origin stories can barely begin to matter if they do not open out to the ongoing material agencies of the present moment, acknowledging human culpabilities and vulnerabilities. Ten years after publishing *The Sea Around Us*, Carson added a preface, contextualizing the book within the "atomic age," warning that the dumping of rubbish and radioactive waste will have catastrophic consequences for life itself. (As I write, the 2011 nuclear disaster in Japan

continues to unfold; radioactive water is dumped into the Pacific.) Carson explains that radioactive waste will not only be widely distributed by the water's movement, but through living creatures, who, unknowingly, distribute radioactivity throughout the global seas.

The smaller organisms regularly make extensive vertical movements upward toward the surface of the sea at night, downward to great depths by day. And with them goes whatever radioactivity may be adhering to them or may have become incorporated into their bodies. The larger fauna, like fishes, seals, and whales, may migrate over enormous distances, again aiding in spreading and distributing the radioactive elements deposited at sea. (xiii)

Although Carson states in *The Sea Around Us*, first published in 1950, that "Man" "cannot control or change the ocean" (15), a decade later, she no longer imagines the ocean to be impervious to human harm. The mythical tale that Carson tells, of how life originated in the sea, magnifies the enormity of the threat of nuclear waste, rather than purifying it or dispersing it into oblivion. Carson does not herself trace the potential for radioactive waste dumped at sea to eventually enter human bodies, but since the next chapter outlines how we all carry the sea within ourselves, the reader may be given pause. Moreover, she leaves us with a disturbing recognition that containment is not possible, as animal bodies are not only permeable and vulnerable, but also, through their usual movements and migrations, have become the distributors of dreadful anthropogenic threats.

The imperiled state of the oceans at the start of the twenty-first century has incited many ocean conservationists to insist that we attend to the circulation of harmful substances as well as harmful human practices. As Sylvia Earle notes, since the "middle of the 20th century, hundreds of millions of tons of ocean wildlife have been removed from the sea, while hundreds of millions of tons of waste have been poured into it" (*The World* 12). Many species have been overfished to the point of extinction, and many marine habitats are being destroyed. Rob Stewart's beautiful film *Sharkwater* exposes how the desire for shark fin soup has resulted in the slaughter of sharks, taking place globally on such an unthinkable colossal scale that sharks may soon be extinct. Deep sea trawling destroys creatures that may be endangered or as yet undiscovered, or both, as well as the deep sea coral reefs, some of which are thousands of years old—the old growth forests of the sea. Long lines, which extend miles across the ocean, luring in birds, mammals, sea turtles, and fish with

hundreds or even thousands of baited hooks, result in wide expanses of death and destruction, as the majority of the animals are killed and then discarded. Whether by long lines, trawling, or huge drift nets, industrial fisheries discard most of the catch as “by-catch”—living creatures cast back as lifeless garbage.⁹ Jonathan Safran Foer in *Eating Animals* challenges us to imagine “being served a plate of sushi. But this plate also holds all of the animals that were killed for your serving of sushi. The plate might have to be five feet across” (50).

Foer disrupts the radical disconnect between the aestheticized, inert food on the plate and the moment of capture, when diverse animal liveliness was stilled by industrialized fishing. I agree with Jane Bennett when she writes that one of the reasons to “advocate the vitality of matter” is that “the image of dead or thoroughly instrumentalized matter feeds human hubris and our earth-destroying fantasies of conquest and consumption” (ix). Interestingly, at the same time that the new materialisms are emerging across different theoretical domains, including the environmental humanities, environmental movements and practices are emphasizing the unsettling and unintended consequences of substances and things. The Great Garbage Patch organization, for example, describes on their web site the magnitude of the Pacific Gyre, which is “roughly the size of Texas, containing approximately 3.5 million tons of trash. Shoes, toys, bags, pacifiers, wrappers, toothbrushes, and bottles too numerous to count.” Everyday, ostensibly benign, human stuff becomes nightmarish as it floats forever in the sea. The recognition that these banal objects, intended for momentary human use, pollute for eternity renders them surreally malevolent.

The TED talk by Captain Charles Moore, on “the seas of plastic,” reveals that seawater often contains more plastic than plankton and the bodies of both fish and seabirds harbor an astonishing volume of plastic relative to their size. Nor are humans immune from the effects of our refuse, as the chemical-laden plastics drift into the food chain. (Moore warns that no wild caught seafood could ever be called “organic.”) Chris Jordan’s stunning photographs, “Midway: Message from the Gyre,” feature decomposing marine birds—the remnants of their carcasses revealing the pieces of plastic they have ingested. These surreal photographs display the painful contrast between the muted browns and grays of the decomposing bodies, bodies that are already becoming part of “nature” again, against the eerily cheery and super-colorful bits of plastic, predominantly bottle caps—the banal but persistent detritus of consumerism. Ironically, the birds, like good environmentalists, will “reuse” these bits of plastic, taking

them from the site of the decomposed bodies, and then eating them or feeding them to their young, as one bottle cap—such a negligible bit of stuff to humans—may persist in killing birds and fish for hundreds of years. There is something surreal, something uncanny, about ordinary human objects becoming the stuff of horror and destruction; these effects are magnified by the strange jumbling of scale in which a tiny bit of plastic can wreak havoc on the ecologies of the vast, vast seas. Since we cannot see mercury or other chemicals within sea mammals, these photographs stand as vivid recognition of transcorporeality—animal bodies invaded by terrestrial, human consumerism, revealing the swirling natural-cultural agencies, the connection between ordinary terrestrial life and ocean ecologies, and the uneven distribution of harm. Suspense, as an affective state, may be provoked by posthuman epistemologies, as material agencies and ontologies of intra-action and perpetual becoming deny us the security of knowing what will happen next, as even the most banal objects may harbor strange agencies. “Toxin-laden microplastics may add another risk to marine life,” as the many creatures such as benthic worms, sea cucumbers, and krill “will ingest tiny plastic particles” (Kaiser 1506). This is Ulrich Beck’s risk society sunk to the bottom of the sea, as the benthic creatures can no longer depend on their own sensory organs to detect danger. Their ways of knowing and being have been rendered inadequate by the anthropogenic substances that surround them.

BlueVoice.Org, a marine conservation organization that focuses on dolphins and whales, epitomizes a transcorporeal environmental politics by stressing that humans, dolphins, and whales are all vulnerable to the harmful effects of mercury and organochlorines. In the short film entitled *A Shared Fate*, Hardy Jones, a founder of BlueVoice.org, explains how he had dedicated his life to studying and protecting dolphins and whales. Ironically, his “extraordinary bond” with dolphins becomes undeniably corporeal. He explains: “I was diagnosed with a disease that intertwined my life with dolphins in a way I could never have imagined.” Jones had developed chronic mercury poisoning from eating the same fish that dolphins eat. He also developed multiple myoma, which, as Dr. Brian Lurie explains, also affects dolphins, because dolphins “do not break down type II dioxins, and that puts them at risk so we are now evaluating the same kinds of things in people” (“A Shared Fate”). Such things as coal-burning power plants, pesticides, and flame retardants result in an ocean riddled with mercury and organochlorides, which threaten marine life. Those who eat marine animals, for example, people who eat dolphins, suffer from high levels of dangerous heavy metals in their

bodies. Ironically, it is the fact that dolphins and whales have become so toxic that may rescue them from slaughter, if not from disease. As with most transcorporeal recognitions in risk society, *A Shared Fate* displays both the necessity for scientifically derived data and the need for embedded epistemologies that reconfigure the boundaries between scientific practices, politics, human health, and environmentalism.

New materialist and science studies theories that stress the impossibility of an ontological divide between nature and culture are invaluable for contemplating the seawater itself. Scott C. Downey, in an article in *Science* entitled “The Growing Human Footprint on Coastal and Open-Ocean Biogeochemistry,” explains how human “fossil fuel consumption, fertilizer use, and industrial activity” are “fundamentally altering the chemistry of the ocean, often on a global scale” (1512). Indeed, our carbon dioxide emissions alone, the “gigatons of acid [that] are lowering the pH of the world’s ocean” will result in a “geochemical disruption [that] will reverberate for tens of thousands of years” (Kerr 1500). The utterly unprecedented nature of the “massive and rapid” changes caused by carbon dioxide emissions may be best understood as a “grand planetary experiment” (1500), but an “experiment” that places the entire planet and its creatures within the “mangle of practice,” a posthuman space where scientific practice is “an open-ended, reciprocally structured interplay of human and nonhuman agency” (Pickering vii). We all live, in Pickering’s words, “in the thick of things,” even though the scientific and everyday stance of “detachment and domination” blocks this recognition (8). Both evolutionary origin stories and contemporary transcorporeal mappings may, perhaps, provoke a recognition that the very stuff of ourselves is always—even across vast scales of times and distance—the stuff of an agential, tangled world. In such a world, in such an experiment, science, politics, ethics, and the mundane but consequential practices of ordinary humans, swirl together, confusing not only categories but also earnest environmental citizens who confront the strange concatenations of seemingly irreconcilable ontologies and scales. One can refuse the plastic bag at the market and prevent a sea turtle from choking on that flimsy yet fatal object, but what to do about the effects of ocean acidification that will “reverberate for tens of thousands of years”?

Ocean conservation hovers at the very limits of what transcorporeality can conceptualize. In order to extend models of new materialisms across the vast, liquid, and barely known expanses of the seas, we need to foster posthumanist—and posterrestrial—modes of knowing, being, and acting. Although the scientific stance

of distancing and mastery that Shubin and others perpetuate must be supplanted by more complicated models of entanglement and emergence, scientific “captures” are nonetheless crucial for a material ecocriticism of marine environments, as these highly mediated modes of knowledge nonetheless are part of a “chain” that “leads toward what is invisible because it is simply too far and too counter-intuitive to be grasped directly” (Latour, *On the Modern* 122). In other words, trans-corporeality must be “composed.” It is not given but instead requires the composition of many “discontinuous pieces” (Latour, “An Attempt” 484). A transcorporeal, oceanic ecocriticism floats in a productive state of suspension, between terrestrial human habitats and distant benthic and pelagic realms, between the aesthetic estrangement¹⁰ of sea creatures and the recognition of evolutionary kinship, between mediated, situated, and emergent knowledges and an ethico-aesthetic stance of wonder. Both new materialisms and blue-green environmentalisms suggest that there is no solid ground, no foundation, no safe place to stand. Like our hermaphroditic, aquatic evolutionary ancestor, we dwell within and as part of a dynamic, intra-active, watery world.

NOTES

1. For a new materialist approach to ecocriticism, specifically, see Opperman, who traces the hostility toward postmodern and poststructuralist theory in ecocriticism. She argues that “we need to advance a critical perspective in which both discursivity and materiality (in other words, discursive practices and material phenomena) can be integrated in a relational approach. The accountability of such an approach must, however, lie in a correct identification of the ethical, epistemological, and ontological concerns of ecocriticism’s wider interest in human and non-human systems” (155).

2. The vastness of the seas has long buoyed the cultural conception of the ocean as impervious to human harm. Patton discusses how “many cultures have revered the sea, and at the same time they have made it to bear and to wash away whatever was construed as dangerous, dirty, or morally contaminating” (xi). Whether or not these religious beliefs have persisted, both the scale and the hazardous nature of what is dumped into the seas have changed, entirely, from ancient times. Nonetheless, contemporary global practices of dumping garbage, sewage, weapons, toxic chemicals, and radioactive waste assume that dispersing the substances or forces across the breadth and depth of the seas will make them to disappear. For more on the problematic notion of “dispersing,” see Alaimo, “Dispersing Disaster” (2012).

3. Benthic zones are on the sea floor, while pelagic zones are in the open seas; other ocean zones are distinguished by depth.

4. I am indebted to Joni Adamson and Sally L. Kitch for this section of the paper, as they invited me to speak on “origins” for the Institute for Humanities Research at Arizona State University. I would also like to thank TEMA Genus at Linköping University for inviting me to speak on transcorporeality at sea.

5. In my *Undomesticated Ground*, I discuss how Darwinian feminist philosophers in the late nineteenth and early twentieth century take the fact that human ancestors were hermaphroditic and use it to argue for a gender-minimizing, even queer, feminism that emerges from nature. Directly countering the late twentieth-century idea that gender essentialisms were rooted in nature, they saw pervasive evolutionary transformation as evidence that rigid gender oppositions were “unnatural.” To what extent Darwin’s work and evolutionary theory more generally can be read in terms of the development of contemporary feminisms and queer ecologies remains an open question.

6. A compelling counter to Shukin’s anthropocentrism would be Eva Hayward’s essay, “More Lessons from a Starfish: Prefixial Flesh and Transpeciated Selves,” which writes transsexuality as a “mutuality,” a “shared ontology,” with the starfish, particularly as they both regenerate “as an act of healing” (81).

7. “Do the facts of our ancient history mean that humans are not special or unique among living creatures? Of course not. In fact, knowing something about the deep origins of humanity only adds to the remarkable fact of our existence: all of our extraordinary capabilities arose from basic components that evolved in ancient fish and other creatures. From common parts came a very unique construction. We are not separate from the rest of the living world; we are part of it down to our bones and, as we will see shortly, even our genes” (Shubin 43).

8. At this point, there is a rich and varied literature in feminist theory, disability studies, environmental studies, queer theory, and other fields that traces how bodily agencies interact with other material forces and cultural systems, most strikingly, within material feminisms and other new materialisms. My book *Bodily Natures*, for example, poses people with multiple chemical sensitivity as the quintessential transcorporeal subject who must contend with the deviant material agencies that her or his body registers.

9. See Earle for more on the threats to ocean ecologies.

10. My book manuscript-in-progress, “Sea Creatures at the Limits of Animal Studies: Science, Aesthetics, Ethics,” will explore how aesthetics is intertwined with the scientific, popular, and activist representations of deep sea life.

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